Amendments to the Claims:

1.-19. (cancelled)

20. (currently amended) A device for process optimization, comprising:

at least one optimization entity for influencing at least a process parameter;

at least one monitoring entity for monitoring the process parameter; and

at least one evaluation entity for automatically determining an optimization of the process parameter, wherein the optimization is effected by the optimization entity, and the evaluation entity further comprising a comparator to compare a reference value of a specific process parameter with an actual value of the process parameter and a multiplier configured to apportion a difference between the reference value and the actual value;

an integrator configured to integrate a value provided [[to]] by the multiplier over a time period, the integrator having at least one input that is a percental factor by which a specific optimization entity exerts influence on the process parameter; and

a memory device configured to retain a difference between the reference value and the actual value prior to supplying the difference to the multiplier;

wherein the evaluation entity is further provided a reference time, a currently determined time, and a percentage factor so that the at least one optimization entity produces an optimization value, an optimization value integrated over a time period, and a percentage of optimization applied to the process parameter per optimization entity when more than one optimization entity is utilized.

21. (previously presented) The device according to Claim 20, wherein the process parameter which must be optimized, and which is influenced by the optimization entity, is assigned an evaluation entity such that the optimization which is effected on the process parameter by the optimization entity can be determined by the evaluation entity online and/or in real time.

22. (previously presented) The device according to Claim 20, wherein the evaluation entity has at least one evaluation module for automatically determining an optimization of a corresponding process parameter, wherein the optimization is effected by a specific optimization entity.

23. (previously presented) The device according to Claim 22, wherein the evaluation module is used for automatically determining a yield increase which is effected in relation to a relevant process parameter or for automatically determining a cost saving which is effected in relation to a relevant process parameter.

24. (previously presented) The device according to Claim 22, wherein the number of evaluation modules in an evaluation entity which is assigned to a process parameter is dependent on the number of optimization entities which influence the process parameter concerned.

25. (previously presented) The device according to Claim 22, wherein the evaluation modules provide an absolute optimization value and a time-related optimization value as output values, thereby allowing absolute and time-related recording of the optimization which is effected for relevant process parameter by each optimization entity.

26. (previously presented) The device according to Claim 20, wherein all evaluation entities are connected to an overall evaluation entity, such that the effected overall optimization of all process parameters can be determined online and in real time by the overall evaluation entity.

27. (previously presented) The device according to Claim 20, wherein at least one time normalization entity is provided for normalizing time quantities.

28. (previously presented) The device according to Claim 20, wherein at least one process-quantity normalization entity is provided for normalizing all process quantities which are used by all entities.

29. (previously presented) The device according to Claim 28, wherein the process-quantity normalization entity is used for normalizing variables and/or parameters.

30. (previously presented) The device according to Claim 20, wherein a display entity for visualizing the effected optimization of the or each process parameter and/or for visualizing the effected overall optimization of all process parameters.

31. (previously presented) The device according to Claim 30, wherein the display entity simultaneously depicts the effected optimization of each individual process parameter and the effected overall optimization of all process parameters online and/or in real time in a dynamic spider diagram.

32. (currently amended) An MES (manufacturing execution system) device for optimizing processes, wherein the MES device is connected between an enterprise and production planning system and a monitoring and control system, the MES device comprising:

at least one optimization entity for influencing one or more process parameters of the monitoring and control system;

at least one data determining entity for monitoring the or each process parameter; and

at least one evaluation entity for automatically determining an optimization of the or each process parameter, said optimization having been effected by the or each optimization entity, and the evaluation entity further comprising a comparator to compare a reference value of a specific process parameter with an actual value of the process parameter and a multiplier configured to apportion a difference between the reference value and the actual value;

an integrator configured to integrate a value provided [[to]] by the multiplier over a time period, the integrator having at least one input that is a percental factor by which a specific optimization entity exerts influence on the process parameter; and

a memory device configured to retain a difference between the reference value and the actual value prior to supplying the difference to the multiplier;

wherein the evaluation entity is further provided a reference time, a currently determined time, and a percentage factor so that the at least one optimization entity produces an optimization value, an optimization value integrated over a time period, and a percentage of optimization applied to the process parameter per optimization entity when more than one optimization entity is utilized.

33. (previously presented) The MES device according to Claim 32, wherein the enterprise and production planning system is an ERP (enterprise resource planning) device, and wherein the monitoring and control system is a PLT (process instrumentation and control) device.

34. (previously presented) The MES device according to Claim 32, wherein each process parameter of the monitoring and control system, which process parameter must be optimized and which process parameter is influenced by one or more optimization entities, is assigned an evaluation entity such that the optimization which is effected on the relevant process parameter by the corresponding optimization entities can be determined by the evaluation entity, so that an ROI (return of investment) value which is achieved by the relevant optimization entity can be determined online and/or in real time.

35. (previously presented) The MES device according to Claim 32, wherein the or each evaluation entity has at least one evaluation module for automatically determining an ROI value of a respective process parameter, said ROI value being achieved by a respective optimization entity.

36. (previously presented) The MES device according to Claim 32, wherein all evaluation entities are connected to an overall evaluation entity, such that the effected overall optimization of all process parameters, namely an overall ROI value of the MES device, can be determined online and/or in real time by the overall evaluation entity.

37. (previously presented) The MES device according to Claim 32, wherein a display entity simultaneously displays the ROI values which have been achieved by the relevant optimization entities and the overall ROI value of the MES device online and/or in real time in a dynamic spider diagram.

38. (currently amended) A method for process optimization, comprising:

optimizing one or more process parameters by at least one optimization entity by comparing a reference value of a specific process parameter with an actual value of the process parameter, apportioning a difference between the reference value and the actual value, integrating a value provided [[to]] by a multiplier over a time period where the integrating value comprises at least one input that is a percental factor by which a specific optimization entity exerts influence on the process parameter, and retaining a difference between the reference value and the actual value prior to supplying the difference to the multiplier;

applying an independent percentage factor to each optimization entity when more than one optimization entity is provided to designate a percentage each optimization entity should provide;

monitoring the process parameters by at least one monitoring entity; and

automatically determining the effected optimization of the or each process parameter by at least one evaluation entity with values obtained from the multiplier.

39. (previously presented) The method according to Claim 38, wherein a process parameter is optimized by one or more optimization entities, and wherein the optimization which is effected by each optimization entity for the relevant process parameter is determined online and/or in real time.

40. (previously presented) The method according to Claim 38, wherein the effected optimization of all process parameters is determined online and/or in real time, and as an absolute and/or time-related quantity.

41. (previously presented) The method according to Claim 38, wherein when more than the at least one optimization entity is provided, each percentage factor, associated with a cumulative number of optimization entities, may not cumulatively exceed 1.